

ABSTRACT OF NOTES
OF
ONE HUNDRED OPERATIONS
PERFORMED IN

THE VICTORIA HOSPITAL, FOLKESTONE

BY

DR. PERCY LEWIS

*Honorary Medical Officer to the Victoria Hospital, and Honorary Surgeon to
St. Andrew's Convalescent Home, Folkestone.*



London

JOHN BALE & SONS

87-89, GREAT TITCHFIELD STREET, OXFORD STREET, W.

1894

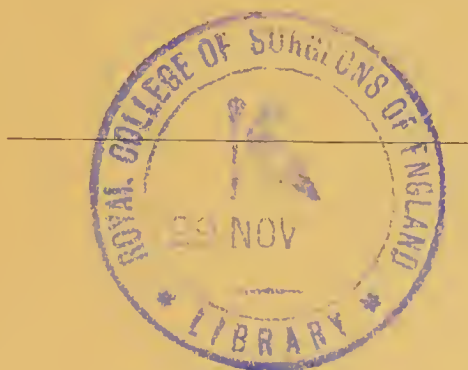
ABSTRACT OF NOTES
OF
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PERFORMED IN
THE VICTORIA HOSPITAL, FOLKESTONE

within the three years 1891-4

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INTRODUCTORY.

THE notes contained in the following pages are those of operations on some of the cases under my care in the Victoria Hospital, Folkestone, from April, 1891, to April, 1894. They include all those of any importance which occurred in that period, but nearly an equal number of minor ones have been omitted. The notes of those of 1891 and 1892 are from those taken by me at the time of the operation, or shortly afterwards; those of 1893 and 1894 are from notes taken by the House Surgeon, Mr. Chambers. In arranging and collecting them together I have added comments here and there, which may be of interest.



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AMPUTATIONS (5 Cases).

Case 1.

B. C., aged 19. Admitted March 24, 1892 ; discharged May 17, 1892.

This patient was a young woman, who had suffered when a child from infantile paralysis. This had left the right leg small, paralysed and useless. Below the knee it was nearly always painful, and every winter was more or less covered with chilblains. Amputation below the knee was advised, and agreed upon. This was done on April 14, by circular skin flaps and circular division of the muscles. A drainage tube was inserted and removed on the third day. The temperature had been previously normal, but it now rose to $99\frac{3}{8}^{\circ}$. The tubes were therefore inserted for another two days. There was no further rise of temperature. On May 10 the wound was healed, and all the dressings removed, but she remained in hospital some days longer, to obtain and become accustomed to the artificial leg.

Cases 2 and 3.

R. C., aged 10, boy. Admitted May 24, 1892; discharged July 20, 1892.

This patient had been in the hospital the previous year for tubercular sinuses of the leg, and caries of the metatarsus and cuboid. The sinuses had then been well

scraped, and the cuboid and two outer metatarsal bones removed. The wounds, however, never healed, and the sinuses extended up the leg. On admission he was treated for a month with Koch's injections, but receiving no benefit, amputation through the knee joint was decided on. This was done on June 15, by two lateral flaps. When dividing the muscles it was found that one of the sinuses below the knee extended through the popliteal space, and upwards for four inches among the muscles of the thigh. This was dissected out, a tube inserted, and the wound closed. In spite of the sinus, it ran an aseptic course, and the patient was discharged healed on July 20. The temperature did not rise higher than $100\frac{2}{5}^{\circ}$.

The disease, however, recurred. When seen in April, 1893, there were three sinuses discharging through or near the cicatrix, and extending upwards for two or three inches. As it was important that for his general health he should not be kept long in hospital, amputation was again performed above the deepest sinus, by long anterior and short posterior skin flaps, with circular division of the muscles. A tube was put in for forty-eight hours. Temperature for the first five days was 100, $98\frac{2}{5}$, 101, 100, 96° , and thence normal. The wound ran an aseptic course, and the patient was discharged cured a month later.

Cases 4 and 5.

P. H., aged 45, married woman. Admitted July 2, 1892; discharged August 8, 1892.

This patient, who had previously had a Syme's amputation done at a London hospital for strumous disease of the left foot, was suffering from recurrence of the disease in and above the stump. The ankle joint, too, was affected with tubercular disease. Amputation by lateral skin flaps (the Guy's method), below the knee was performed on July 12, and the patient left the hospital well on August 8. On the day after the operation the temperature rose to 101° , but from thence it was normal.

About a year later, viz., September, 1893, patient came to the hospital with advanced strumous disease of the right ankle joint, and lower end of the tibia. There were no sinuses, but there was a large swelling at the front and inner side of right ankle joint. There was fluctuation in front, and skin all over was red and œdematous. Patient

refused amputation, so on September 20, incisions were made in front and on the inner side of the joint, and the tubercular matter, which involved most of the tendons in those situations, was cut or scraped away. A cavity in the lower end of the tibia about the size of a walnut was scraped out. The wound did not heal, and the disease recurred very soon. On November 9, the wounds were re-opened, and the bones and tendons scraped and gouged. Her general health began to suffer, and as the wound showed no sign of healing she was made an out-patient. The wound, however, became septic owing to her not attending regularly, and a month later it was scraped again. She was again made an out-patient. The wound, however, never healed, but remained a source of pain and annoyance to her until March, 1894, when she asked to have it removed. Amputation was performed on March 9, by anterior and posterior flaps below the knee. On April 3, she was discharged healed and well. She now (six months later) gets about fairly well on two pin legs.

Before the operation she had a daily temperature varying between $100\frac{2}{5}^{\circ}$ and normal. After operation, the temperature remained for two days above 101° , and then returned to its previous condition.

Remarks.—All these cases ran an aseptic course, all were healed in three weeks from the date of operation, though they were all kept in hospital for at least a week longer to allow the scar to become firm. None were drained for more than forty-eight hours except Case 1. All were painless stumps with the scar well away from the bone.

GYNÆCOLOGICAL OPERATIONS (5 Cases).

Case 6.

A. B., aged 56, married woman. Admitted May 27, 1891; discharged June 2 1891.

Patient had suffered for some months from a foul blood-stained vaginal discharge. On examination a Hodge's pessary was felt, but so imbedded in the tissues that it was impossible to remove it. On inquiry the patient stated that the instrument had been inserted *six years* previously by a doctor, and had never been removed since.

Operation.—Chloroform was given, and it was then found

that ulceration had taken place in the soft parts, at both ends, and at part of one of the sides of the instrument. The instrument had gradually sunk into the tissues, and healing had taken place over it, partly enclosing it in the tissues. Bands of dense scar tissue were divided and the pessary removed. At the back, the outer surface of the mucous membrane of the rectum was visible. No doubt, if the instrument had remained a little longer it would have ulcerated into the rectum.

Case 7.

J. B., aged 44, married woman. Admitted November 21, 1892; discharged December 4, 1892.

For the past year patient had suffered from menorrhagia. The periods had gradually increased in length until there was hardly any interval at all. Patient was becoming so weak from loss of blood that she was compelled to keep her bed entirely. On passing a sound the uterus was found slightly enlarged.

Operation.—Hagar's dilators were passed in with a view of exploring the uterine cavity. When this had been dilated sufficiently to admit one's little finger, the uterine muscular tissue unfortunately began to tear instead of stretching. Further use of dilators being inadvisable, the uterus was explored as well as possible under the circumstances, but nothing found.

There was no more hæmorrhage while in the hospital. Soon after leaving, the hæmorrhage began again, and two months after she went to Charing Cross Hospital. Here dilation was successfully performed, and a small polypus about the size of a haricot bean discovered in the left cornu. This was twisted off. Three months after leaving the hospital, the patient had had normal periods, and no recurrence of the bleeding.

Case 8.

E. T., aged 37, domestic servant. Admitted May 22, 1893; discharged June 29, 1893.

This patient had suffered for some years from dysmenorrhœa, which had lately become worse. She was now entirely incapacitated for three days each month. After

three weeks of rest in bed, and taking bromide and ergot, the period came on as badly as ever.

As, on examination, it had been found that she had an elongated cervix with pinhole os, dilation was performed under chloroform, and the patient, after two weeks more in hospital, allowed to resume her work. The next periods were so far relieved that she was able to continue her work all through them. She went abroad, and has been lost sight of.

Case 9.

A. T., aged 40, widow. Admitted June 13, 1893; died June 24, 1893.

This patient, who had had two children, had suffered for ten years from leucorrhœa, dysmenorrhœa, and menorrhagia. She had been under a number of doctors, had had many pessaries, and had had two operations in London hospitals, the nature of which she did not know. On admission, she stated that for the last year she had been getting much weaker, that the periods lasted two weeks, that she was losing flesh rapidly, and that she was worn out with the pain, which was almost constant during the two weeks of the period. Her doctor had given her a course of iron and ergot, with hot antiseptic douches, without benefit. The uterus was enlarged (half-inch by the sound), heavy, and somewhat prolapsed.

This was not a hopeful case, but as it was obvious that she was gradually sinking under the disease, it was determined to explore the uterus. There was no other sign of pelvic disease, except an enlarged right ovary. A week before the operation she was kept in bed, and perchloride douches given night and morning.

Operation.—On June 16 she was anæsthetised. On inserting the Sims speculum it was seen that a yellowish discharge was issuing from the uterus. The uterus was then dilated and explored. The mucous membrane was rough and granular. This was thoroughly scraped, and well douched with antiseptic (perchloride 1-2000). The temperature rose the day after the operation to $103\frac{3}{5}^{\circ}$, and remained between that and 101° until June 22, when it fell to normal and remained so. Vomiting occurred at intervals of a few hours, and there was some tympanites.

Patient gradually sank and died on the sixth day after the operation, with temperature 97° . No *post-mortem* examination was allowed, but death was evidently from peritonitis. The treatment was as antiseptic as possible throughout. Antiseptic douches were used for a week before operation, and three times a day after. An intra-uterine douche was given by the house surgeon each morning after the dilating. The causes apparently were the previous long standing septic condition of the uterus, and her extremely bad health.

Case 10.

S. B., aged 29, married woman. Admitted July 25, 1893; discharged August 24, 1893.

This patient had been confined two years previously, forceps being used. She then had rupture of the perinæum, and since then, prolapse of the uterus; as this was getting worse she applied for relief. As there was some leucorrhœa, patient was kept in bed for a week and given frequent antiseptic douches.

Operation.—August 1. An incision was made transversely across the septum and extended laterally on each side of the vagina. The flap was then split vertically and then united transversely with three deep silver wire sutures, and four superficial ones. The patient's legs were then tied together. For the first week a perchloride douche was given daily, at the end of this time the wire sutures were removed, and at the end of the second week, the superficial ones. There was not any rise of temperature after the operation. She was kept in bed a third week, and then allowed to go home. Seen a year afterwards, the new perinæum remains firm in spite of an abortion at three months, and there has been no more tendency to prolapse.

ABDOMINAL OPERATIONS (6 Cases).

Case 11 (*Ovariectomy*).

S. A., aged 42, hospital nurse. Admitted September 12, 1892; discharged September 28, 1892.

For four years patient had noticed a lump in the right iliac region. She had recently suffered from constipation, for which she has taken strong aperient medicine. A week

before admission she had suffered from constipation and abdominal pains. For this, she had taken strong aperient medicine, without obtaining any action of the bowels. On admission, temperature 101° , some cyanosis, rapid breathing, small rapid pulse, constant vomiting, pain in abdomen, knees drawn up; the abdomen was much distended, and tympanitic all over except in the right iliac region, where it was dull and hard, as far as two inches from the umbilicus. A consultation was held with Drs. Bowles, Tyson and Eastes. The diagnosis was ovarian cyst causing obstruction by pressure, and peritonitis. It was decided to relieve the obstruction by aspirating the cyst, the condition of the patient being too bad to allow of further operation. Aspiration was therefore performed, and one and a-half pints of ovarian fluid withdrawn. Patient made a speedy recovery, and was discharged in a fortnight, with orders to return in a short time for removal of the cyst.

Re-admitted October 12; discharged November 26. On October 19, chloroform was given and the usual incision made. The cyst was found partially adherent to the peritoneum in front, and intestines at the sides. It was also entirely adherent behind. The Wells trocar drew off about a pint of blood-stained grumous fluid. The cyst was then found to be multilocular, but sufficiently reduced in bulk by the largest division being emptied. The adhesions were then separated, and with some difficulty the tumour was brought through the incision. The pedicle was found twisted. This was untwisted, the ligature applied, and the tumour removed. The other ovary was found in Douglas' pouch, cystic, and about the size of a fist. The pedicle was tied and divided in the same way. The abdomen was now sponged out and closed up.

For the first forty-eight hours there was flatulence, retching and quick bounding pulse, with temperature 101° , which, however, abated on the third day. She was then able to take milk and lime water, and from thence made a good recovery. The temperature reached normal on the third day. She was discharged well on November 26.

This patient is now (August, 1894) alive and well.

Case 12 (Ovariectomy).

S. C., aged 45, married woman. Admitted November 10, 1892; discharged December 5, 1892.

Eight months previously patient noticed that her abdomen commenced to swell, and that it continued to do so until October, when she applied to her medical man for treatment. She was then found to have a largely distended abdomen, which was dull all over on percussion. Fluctuation was easily obtained. She also had considerable œdema of the legs. To relieve the distension the abdomen was tapped, and some of the contents submitted to Mr. J. Stainer for analysis. He reported it to be ovarian fluid. On the day of being tapped the patient got up and walked about, though warned not to do so. An attack of peritonitis followed, from which, however, she recovered. A month after being tapped she was sent to the Victoria Hospital.

On admission the lower part of the abdomen was found to be prominent, with dulness and fluctuation up to the umbilicus.

Operation.—On November 11 the usual incision was made. A few adhesions were broken down, and the cyst emptied. The cyst was very thin in places, and in removing it, one of these places was ruptured, causing a small escape into the peritoneal cavity. On removal of the cyst the ligature was applied in the usual way. The left ovary being healthy was left. The abdomen was sponged dry and the wound closed.

After-course.—The patient only vomited once. The temperature was a little elevated for the first week, but never above 101°. The stitches were removed on the seventh day and a collodion dressing applied.

In August, 1894, this patient was alive and well.

Case 13 (Gastrostomy).

J. F., aged 57, old soldier. Admitted September 14, 1891; re-admitted October 5.

Three months before admission he began to suffer from sore throat and lumps in the neck, but did not consult a doctor until these had existed for a month. He then saw a doctor, who found the right tonsil enlarged with protruding granulations at the inner part. A course of anti-specific treatment was ordered, but the disease progressed, and finally presented the characteristic appearance of epithelioma.

On admission he was only able to swallow fluids with

great difficulty. He had a large hard swelling on the right side of the neck, reaching from the jaw to the clavicle, and several smaller lumps, obviously enlarged glands, above and around it. Inside the throat, the right tonsil reached well beyond the middle line, and consisted almost entirely of a mass of epithelioma which could be seen by the laryngoscope to extend into the larynx almost as far as the vocal cords. Gastrostomy was advised and explained to him, but he left the hospital. Three weeks later he returned asking for the operation, as he was now almost unable to swallow anything. The growth had much increased in size.

Operation.—On October 31 ether was administered and a vertical incision three inches long was made from the tip of the ninth left costal cartilage, and the peritoneum opened. The transverse colon presented, but the stomach was easily found, and a circle of it, an inch in diameter, fixed to the abdominal wall by six equidistant sutures passing through the serous and muscular coats and the abdominal walls. For three days the patient did very well, talking freely and reading the newspaper. The nutrient enemata were well retained. The temperature never went above 100° . Early on the morning of the fourth day he began to suffer from dyspnoea and gradually became unconscious. Seen at 9 a.m. he was unconscious, cyanosed, pulse running and feeble, but breathing easily though quickly; temperature 100° . The wound was now dressed for the first time since the operation, the stomach opened with a tenotomy knife, a catheter inserted, and an ounce of Benger's food and brandy administered. He was fed several times in this way, but died at 2 p.m. the same day, with temperature 101° .

Post-mortem examination.—The stomach was found firmly adherent to the abdominal wall, all over the area included in the sutures. There was no peritonitis or effusion into the peritoneum. Secondary deposits were found in the apex of the right lung, and the bases of both were congested and very oedematous. The heart was small. The glands in the anterior mediastinum contained secondary deposits.

Remarks.—This case was one of very rapid growth, three months only having elapsed between the first appearance of the disease and its fatal termination. The operation was done in the hope that the rate of growth

would be lessened if more nourishment could be administered, and if the seat of the disease were not irritated by the frequent passage of food. Death seems to have been due entirely to œdema of the lungs. The most important point in the case was the firmness and completeness with which the stomach was fixed to the abdominal wall by the fourth day; so firmly, in fact, as to suggest that it might safely have been opened on the second day after first operation. Possibly the œdema of the lungs was due to the ether.

Case 14 (Vaginal Hysterectomy).

J. F., aged 37; married woman. Admitted January 24, 1894; died January 27, 1894.

This patient, who had had nine children, had always had good health. Six months previously she began to suffer from a foul-smelling, blood-stained, vaginal discharge. On examination a very large cauliflower growth was found, involving the cervix. It was so brittle, that large pieces were easily broken off. She had no cachectic look, and had not lost flesh. The great risks of operation were explained to her and her friends, but they elected to have it done.

Operation, January 25.—The patient was placed in the lithotomy position. The cervix was pulled down with strong volsella forceps. An incision was then made through the mucous membrane all round the cervix, and about a quarter of an inch from the growth. A director being introduced into the bladder, it and the peritoneum were separated from the uterus in front. The peritoneum was then separated behind. In doing so, Douglas' pouch was opened and a sponge inserted. The peritoneum was then opened in front and the broad ligaments defined. An attempt was now made to ligature the left one, but the ligature slipping, the attempt was given up, and Greig Smith's clamps applied on each side. The ligaments were divided and the uterus was pulled down, but the Fallopian tubes were found outside the clamps and still uncut. These were tied separately, and the uterus removed. One ovary prolapsed, but was easily pushed back. The sponge which had been placed in Douglas' pouch was now removed, when free hæmorrhage set in from the stump of

the right broad ligament. Two large pairs of Spencer Wells' forceps were applied, and the hæmorrhage appeared to have ceased. The whole operation had occupied an hour.

Hæmorrhage recurred during the next twelve hours, but was controlled by plugs in the vagina. Vomiting set in the same evening, and the next day the temperature rose to 102° , and there was great distension of the abdomen.

January 26.—The clamps and forceps were removed, and weak antiseptic douche used. No more hæmorrhage. Morphia given for the vomiting without effect. In the evening there was no improvement. A seidlitz powder given but not retained.

January 27.—Temperature still 102° . Vomiting incessant. Great distension. Rectum tube introduced. Stomach washed out with warm water. Some relief for a few hours, but patient suddenly became cyanosed, and died in a few minutes.

Remarks.—The cause of death was undoubtedly acute septic peritonitis. The large size of the cauliflower portion of the growth in the vagina made asepsis of the vagina impossible, although frequent antiseptic douches (1-2,000 perchloride) had been administered for three days previously, and immediately before the operation. The occurrence of hæmorrhage, some of which must have passed into the peritoneum, formed a readily putrescible substance rendering peritonitis inevitable. No doubt perseverance with ligaturing, even after the first slipping, would have been best.

The clamps were new and stiff, and did not fit easily. It was very difficult to keep the male blade over the top of the broad ligament, while the female blade was being got into position, in fact, the Fallopian tube slipped free on each side. On the right side the blades were not properly locked, but this fact could not be told from the appearance of the ends outside the vagina. It was only known from the appearance of hæmorrhage.

Case 15 (Supra-pubic Lithotomy).

W. R., aged 66, labourer. Admitted July 24, 1893; discharged August 31, 1893.

This patient had suffered for ten years from symptoms of stone in the bladder. Lately the pain on movement had become so severe that he had applied to his doctor for relief, and was sent into the Victoria Hospital. On admission the urine was found clear and acid. There was no pus, but several uric acid crystals. On being sounded, a large stone was made out.

July 29, Operation.—The bladder being injected, and the rectum distended with the rectum bag, an incision was made in the *linea alba* upwards from the pubes. The peritoneum was pushed up without difficulty, and the bladder opened. The stone was next extracted; it was a uric acid one and weighed $2\frac{1}{4}$ ounces. The wound in the bladder was now closed with interrupted silk sutures, and the abdominal wound sewn up. A drainage tube was left in for three days, in case the bladder wound should leak. No leaking however, took place, and so the tube was removed. The wound ran an aseptic course and healed in a week. The catheter was passed every four hours at first, but some cystitis occurred on the fourth day, the temperature rising to 100° ; this was discontinued, and the patient made to pass water himself. The cystitis rapidly gave way to twenty-grain doses of boracic acid. This had to be continued for some time, as the cystitis with rise of temperature recurred three times, and with the last attack epididimitis occurred. From these he ultimately recovered. On August 31 he left the hospital well, and with full control over his bladder.

Remarks.—The point of interest in this case is the rapidity with which he got well after the suturing of the bladder, compared with the time such a case would take if a drain-tube was inserted into the bladder in the usual way.

Case 16 (Laparotomy for Perforation of the Appendix).

K. B., aged 9, girl. Admitted November 5, 1893; died November 6, 1893.

This patient had always enjoyed good health, but had occasionally suffered from bilious attacks.

On November 1.—She was seen for headache. Bowels were constipated; although she had been given a mild aperient the night before, an enema was ordered, and this acted well.

November 2.—Was sick twelve times, but beyond the sickness she had no other symptoms. Temperature normal.

November 3.—She was sick only four times, but complained of some pain in the abdomen, chiefly over the pubes. In the evening there was pain on passing water, which was very acid and loaded with lithates.

November 4.—Better in herself, though vomited a few times; abdomen tender over the bladder. Temperature 99.5° .

November 5.—Had been vomiting all night, bringing up about two quarts of bilious matter. This had no smell. She had passed no flatus, so enema was given which brought away a large clay coloured motion. During the morning the pains over the abdomen increased, the tongue became dry, legs drawn up, tendency to hiccough, temperature 100° , and for first time refused food.

It being now clear that peritonitis was present, operation was advised and patient sent to the Victoria Hospital.

Operation was performed at once. A median incision three inches long was made below the umbilicus. On opening the peritoneum, a quantity of sero-pus escaped. The bowel appeared red, and on moving the coils of intestine, a quantity of pus escaped. The vermiform appendix was then looked for, found, and brought as near to the opening as possible. It was found perforated. As it could not be brought near enough to the opening to ligature it, this was done through a separate incision over it. The abdomen was then sponged dry, and the wounds closed. There was no pain after the operation, but the vomiting continued. The tympanites also increased, and the patient died the next day.

Remarks.—This patient had been ill five days before peritonitis could be definitely diagnosed. Directly it was certain, operation was performed. Then it was found too far advanced for recovery.

OPERATIONS ON TUBERCULAR BONES (4 Cases).

Case 17 (Tubercular Metacarpal Bone).

N. R., aged 2 years, girl. Admitted March 17, 1892; discharged April 21, 1892.

This patient was brought to the hospital for a swelling on the back of the hand. This was found to be an enlarged metacarpal bone. It was first noticed six weeks previously, and had since then increased considerably in size. It was now about twice as large as normal. The skin over it was quite healthy.

Operation.—An incision was made over the bone lengthwise, the tendons pulled on one side, the periosteum divided and turned back, and the outer surface of the bone removed along the middle sufficiently to admit a small Volkman's spoon. The bone was found to be full of tubercular matter. This was removed, the cavity swabbed out with pure carbolic acid, then well washed in 1-2,000 corrosive sublimate solution, and the wound sewn up without drainage. The wound healed under one dressing. At the end of a month there was no sign of recurrence, so patient was discharged. There was never any rise of temperature.

Case 18 (Tubercular Metacarpal Bone).

F. W., aged 9, boy. Admitted May 30, 1892; discharged August 23, 1892.

This patient was admitted for strumous glands in the neck, but he also suffered from strumous disease of the second metacarpal bone in a similar manner to the above. The same operation was performed, and the wound healed as quickly, without any rise of temperature.

Remarks.—Both these patients have been frequently seen since, no recurrence has taken place, and the hands have not had their movement affected by the operation.

Case 19 (Necrosis of the Scapula).

A. W., aged 21, girl. Admitted March 7, 1893; discharged August 24, 1894.

This patient had suffered for two years from necrosis of the scapula, and from a white swelling of the right knee. The scapula had been twice operated on at another hospital, but had never healed over.

On admission the tip of the acromion process was seen to be necrosed, and projecting from a wound an inch long

over the upper part of the left scapula. The skin round was red and œdematous, and there was abundant discharge.

Operation.—The wound was enlarged, and nearly the whole acromion process was found necrosed. This was removed with bone forceps, the wound scraped, and stuffed with iodoform gauze.

In a month the wound had healed, but owing to the operation on her knee the patient remained in hospital. (See case of excision of knee.)

The temperature, which had been between normal and 100°, was not affected by the operation. Ten days later it became more hectic, but it was probably due to the condition of the knee.

Case 20 (Caries of the Ulna).

M. B., aged 18, hospital nurse. Admitted March 5, 1894; discharged April 3, 1894.

This patient had suffered six months before from typhoid fever. On convalescing from this she had two (tubercular?) abscesses, one on the outer side of the thigh, and one in the forearm. Both had been several times operated on, but had not healed.

On admission, a sinus on the outer side of the thigh admitted a probe about one and a-half inches. On the front of the forearm was another sinus which led down to necrosed bone on the surface of the ulna.

Operation.—The sinus on the outer side of the thigh was enlarged, and the whole cavity, measuring one and a-half inches in all directions, well scraped out. The wound was then united by sutures without drainage. The sinus on the front of the forearm was also enlarged, and an incision made over the necrosed part on the back of the ulna. A carious cavity admitting the tip of the little finger was found in the ulna. This was carefully cut away with a hammer and chisel, going well into healthy bone around and below it. The wound was then well washed with 1-40 carbolic, a tube put right through the forearm, and the wound sewn up. The wound ran an aseptic course, the tube was left out on the third day.

At the end of ten days both wounds had firmly healed, but the patient was kept in bed another week to allow the scars to consolidate. The temperature only once

rose above normal, viz., on the third day, when it reached 99°.

OPERATIONS ON THE BURSA PATELLÆ (4 Cases).

Cases 21, 22, 23 and 24.

1.—F. H., aged 30, housemaid. Admitted July 1, 1891; discharged July 30, 1891. Chronic effusion into the bursa over the patella.

2.—J. P., aged 27, housemaid. Admitted March 20, 1893; discharged April 12, 1893. Chronic effusion into the bursa over the patella.

3.—A. W., aged 13. Admitted September 25, 1893; discharged November 15, 1893. Suppuration in the bursa over the patella.

4.—C. M., aged 16, general servant. Admitted February 21, 1894; discharged March 31, 1894. Suppuration in the bursa over the patella.

In Case 1 the whole bursa was dissected out through a median incision. The result was rapid healing, but the skin over the patellæ became fixed to the bone, and caused at first some pain in moving the joint. It was also painful to kneel on for some weeks after she left the hospital. She was then lost sight of, though told to return if the discomfort continued. Whether another bursa developed in place of the one removed, is therefore uncertain.

In Case 2 the bursa was incised and drained through a small median incision sufficient to admit the tube. The temperature rose to 99° the night of the operation, but remained normal afterwards. The discharge had ceased at the end of a week, so the tube was left out, and the wound allowed to heal. She left the hospital well at the end of three weeks. All movements of the knee were quite free, and the skin over the patella freely movable. This operation seems therefore better than total removal of the bursa.

In Case 3 the inflammation was due to a fall causing abrasion of the skin over the patella. An incision was made at the lower limit of the bursa on each side, and a tube put right across from one opening to the other. The temperature before operation 100 $\frac{3}{8}$ °, next day 99°, afterwards normal. Two ounces of pus were evacuated. The

wounds were long in healing, but the scars being at the sides, were protected from pressure in kneeling.

In Case 4 the same operation was performed as in Case 3. Temperature before operation $101\frac{2}{5}^{\circ}$, next morning normal, 99° in the evening, and then normal for rest of the time.

OPERATIONS ON THE BREAST (4 Cases).

Case 25 (Scirrhus).

M. N., aged 52, lady's maid. Admitted May 17, 1893; discharged June 16, 1893.

This patient had always enjoyed good health. Three months previously had pains in the right breast, and noticed a small lump there. Since then it had been growing rapidly.

On admission there was a tumour the size of a large hen's egg, situated in the right breast, chiefly outside the nipple, but involving the nipple, which was retracted. The axillary glands were also felt to be enlarged. The patient was a very big woman, and very stout. She was pale and was losing flesh.

Operation, May 18.—The tumour was first incised, and the diagnosis confirmed. With another knife the usual elliptical incisions were made over the breast, and after their junction, the incision was prolonged up to the axilla. The breast and subcutaneous tissues including the fascia over the pectoral muscle were then removed, and the axilla cleared of fat and glands. While the axilla was being cleared, the breast was soaked in a 5 per cent. solution of nitric acid. The whole cut surface turned brown, showing that none of the growth was divided on its surface; none was therefore left behind.

The wound was then sutured with several deep sutures, as well as superficial ones, and two large drainage tubes inserted. Three days later the tubes were removed. The wound healed in a fortnight, except in one spot where the skin had overlapped. She was, however, allowed to get up. On June 16 she left the hospital healed and in good health. Heard of a year later, she had regained her health and colour, and there had been no recurrence.

The temperature rose to 100° on the second day after the operation, $99\frac{3}{5}^{\circ}$ on the third, and thence normal.

Case 26 (Scirrhus).

J. H., aged 39, dressmaker. Admitted February 27, 1894; discharged April 10, 1894.

This patient had been suffering from pains and a lump in her breast for six months.

On admission there was a tumour about the size of a pigeon's egg in the right breast, a smaller nodule near it, and hardness and enlargement of the axillary lymphatic glands.

Operation, February 29.—The breast was removed by the usual incisions, and the axilla entirely cleared of fat and lymphatic glands. A nodule of scirrhus was seen in the pectoral muscle. This was removed, together with a circle of muscle extending half an inch clear of the growth. The fascia over the pectoral muscle was carefully dissected off, and all the loose tissue at its lower edge removed. Most of the axillary nerves and vessels were plainly seen. The wound was then sewn up, and a tube inserted for twenty-four hours. The temperature remained for four days after the operation between 99 and 100° , and then fell to normal. The dressings were then changed, and the tube removed.

At the end of a week the stitches were removed, when some gaping of the axillary end of the wound occurred. The wound was therefore redressed. At the end of another week, the temperature rose to $100\frac{4}{5}^{\circ}$, and there was some pain in the axilla. The wound was therefore redressed, when an abscess was found to have formed at the axillary end of the wound. There had previously been no sign of suppuration. This was opened by pushing in a pair of sinus forceps through the scar, and about an ounce of pus was evacuated. The sinus took some time to heal, which accounts for her lengthened stay in hospital. Why suppuration occurred is a mystery, as no source of infection could be discovered. She left the hospital with the wound healed, but with considerable stiffness of the right shoulder. A month later, this was got rid of by massage and passive movement.

In August, 1894, she could use her arm freely, and there was no sign of a return of the growth.

Case 27 (Recurrent Scirrhus).

E. H., aged 44, lady's maid. Admitted April 11, 1892; discharged April 28, 1892.

This patient had had the right breast removed at St. George's Hospital eight months before for scirrhus.

On admission three hard nodules about the size of a shilling were felt in the scar, about one inch apart. She had considerable pain in the lumps.

Operation.—The scar and subcutaneous tissue containing the growths, and extending an inch in all directions from them, was excised by elliptical incisions. The skin was then brought together by freeing the surrounding skin from the subjacent parts. No drainage was used. It healed rapidly, and she left the hospital well two weeks later. The temperature only once reached 99°. Seen December, 1893, the scar was then perfectly healthy and there was no sign of recurrence.

Case 28 (Cyst).

E. B., aged 51, married woman. Admitted January 8, 1894; discharged January 16, 1894.

Patient, who had had several children, had always enjoyed good health. Four months previously began to have pains in the left breast, and noticed that there was a lump there.

On admission a lump the size of a pigeon's egg was felt in the left breast. It was very hard. There was no retraction of the nipple and no enlargement of the axillary glands. On account of its hardness it was thought that it might turn out to be scirrhus.

Operation, January 9.—An incision was made into the lump, when serous fluid spirted out for a considerable distance. The cyst was found to have very thick walls. These were dissected out and the wound closed by deep and superficial sutures. Healing took place under one dressing, and patient left the hospital well at the end of a week.

OPERATIONS ON DEFORMITIES (9 Cases).

Case 29 (Rickets).

J. K., aged $2\frac{1}{2}$, boy. Admitted April 10, 1893; discharged April 17, 1893.

This was a small pale child, with typical rickety curvatures of the femurs and tibiæ. The curves were so great that he was quite unable to walk.

Under chloroform, the bones were found so soft that they were easily bent straight and put up in plaster of Paris. This was maintained for six months, while his general health was improved with hypo-phosphites and cod liver oil. Soon after leaving off the plaster of Paris, he was able to walk with ease. A year later he had grown into a fat, healthy-looking child, able to walk any reasonable distance.

Case 30 (Genu Valgum).

J. M., aged $4\frac{1}{2}$ (boy). Admitted August 31, 1891; discharged October 27, 1891.

The deformity had been noticed since he began to walk at a year old. It had been gradually getting worse. On admission it was found that when the knees were placed together, the right foot was three inches and the left foot five inches from the middle line, *i.e.*, the feet were separated eight inches.

On September 1 an incision, one inch long, was made on the inner side of right thigh over the adductor tubercle, and the femur divided two-thirds through above the tubercle with hammer and chisel. The leg was then bent straight (breaking through the remaining third), sutures put in, and the leg put up in a splint; at the end of a week the wound was dressed. It was then found to be healed, the sutures were removed, and the whole leg fixed to the splint with plaster of Paris bandages. This was removed at the end of seven weeks and the leg found firm and straight.

The patient was re-admitted on December 2, and a similar operation performed on the left leg. On the evening after the operation there was considerable hæmorrhage, and the wound had to be dressed; as there was no further

appearance of blood on the bandages, it was not dressed for a week, when the temperature rose to 103° ; then it was found that more bleeding had taken place inside the splint, and that the wound had consequently become septic. A large drain tube was inserted and the wound well irrigated. The wound healed, however, in two weeks, and except that the bone was a little longer in getting firm, no bad result happened.

The temperature did not rise above normal after the first operation, but the highest temperatures each day after the second were, $101\frac{2}{3}^{\circ}$, $100\frac{2}{3}^{\circ}$, 100° , normal, normal.

Patient seen three years later was found to have both legs straight, strong and useful. The heels came well together.

Case 31 (Torticollis).

M. P., aged 12, girl. Admitted January 11, 1894; discharged February 7, 1894.

This patient had suffered from the age of three with wry-neck. The chin was fixed downwards and outwards over left shoulder.

Operation, January 17.—Tenotomy of the left sternomastoid was performed as follows: the sternal head was divided subcutaneously with a tenotome; then an incision parallel to the clavicle was made over the clavicular attachment of the muscular head. This was well exposed and thoroughly divided, the skin being brought together over it. The wounds healed in three days, but the patient was kept in bed another week. It was then found that the chin could be brought well beyond the middle line to the right side, but was kept from describing quite the natural range by contracted cervical fascia and scalene muscles. As the parents were satisfied with the result, no further operation was undertaken. The temperature on the evening of the operation rose to 99° , but rest of the time it was normal. She was, however, instructed to perform certain exercises with a view to prevent recurrence. Seen six months later, the improvement remains permanent.

Case 32 (Bunion).

A. W., aged 32, married woman. Admitted September 28, 1892; discharged October 23, 1892.

This patient was disabled by a large painful bunion of the right foot. The great toe was bent outwards, passing beneath the second and third toes.

Operation (Cheyne's).—An incision one and a-half inches long was made over the centre of the bunion, and the whole enlarged inflamed bursa cut away; about a fourth of the enlarged projecting head of the metatarsal bone was then sawn off. It was then found that the toe could be easily straightened, that is, brought in a line with the inner side of the foot. The wound was then sewn up and dressed. Temperature rose to 99° on evening of operation; thence it was normal. This healed in a week, and was then put up in the natural position in plaster of Paris; after three weeks she was allowed to walk. Seen two years later, patient says she has had no further discomfort, and the toe maintains its corrected position.

Case 33 (Club Foot).

E. T., aged 7 months, female. Admitted March 21, 1893; discharged March 31, 1893.

This was a case of congenital equino-valgus. As it was impossible to straighten the foot, even under chloroform, tenotomy of the tendo achillis and peronei was performed. The foot was then straightened and put in plaster of Paris; this was ordered to be changed as often as it became broken, but to be worn until child began to walk.

Case 34 (Club Foot).

J. C., aged 9, boy. Admitted August 15, 1892; discharged September 30, 1892.

This was a bad case of right congenital equino-varus, in which the patient walked on the dorsum of the foot.

Operation.—Tenotomy of the tendo achillis having been done two weeks previously, a wedge of bone was cut out of the tarsus with a chisel, taking the whole width of the foot. It was then found possible to bring the foot straight, so that the patient could walk on the sole of the foot. The highest temperatures on the four days after the operation were 100° , $100\frac{3}{5}^{\circ}$, $99\frac{2}{5}^{\circ}$, $98\frac{2}{5}^{\circ}$, thence normal. As soon as

the wound had healed, which it did in two weeks, the foot and leg were put up in plaster of Paris for a month; then a well fitting surgical boot was given him. Seen a year later, patient was still wearing the boot and walked firmly on the sole of the foot.

Case 35 (Club Foot).

E. B., aged 26, single woman. Admitted June 6, 1894; discharged July 4, 1894.

This patient has suffered from right equino-varus since infancy. Never had any treatment. Operation under chloroform, the tendo achillis and tibialis posticus were divided (the latter by the open method). A month later she was discharged well, wearing a special boot which over-corrected her previous deformity, *i.e.*, she walked rather on the inner than on the outer border of her foot.

The temperature never rose above normal after the operation.

Case 36 (Club Foot).

W. R., aged 9, boy. Admitted November 27, 1893; discharged January 14, 1894.

This was a case of left talipes equino-varus from infantile paralysis of the extensor muscles. He walked on the dorsum of the foot, and the leg below the knee was considerably smaller than the other. The tendo achillis was divided subcutaneously, and the tibialis posticus by the open method. He was fitted with a firm leather boot reaching half way up to the knee. Seen nine months later the improvement remained permanent.

Case 37 (Bow Legs).

A. M., aged 2, girl. Admitted June 13, 1893; discharged August 5, 1893.

This was a case of severe "bow" leg, most of the curve being in the lower third of each leg.

Operation, June 22.—Under chloroform it was found that the bones were so hard that it was impossible to bend

them. An incision was therefore made over the lower end of each tibia at the junction of the lower third with the upper two-thirds, and the bone divided with a chisel. The limbs were then bent straight, which fractured the fibulæ. The wounds were then sewn up without drainage and the limbs fixed in splints. Temperature on night of operation and next day, 99° , $99\frac{1}{8}^{\circ}$, afterwards normal. At the end of a week, the wounds being healed, the limbs were put up in plaster of Paris. Patient was discharged well and able to walk on August 5.

Remarks.—The interest in these cases is different, though they are grouped together for purposes of description. Case 29 showed the ease with which the curved bones could be bent at that age, viz., $2\frac{1}{2}$ years, when the patient had never walked (see Case 37). Case 30 showed how little ill result followed from the accident of sepsis owing to the use of a very large drainage tube. Case 31: the sternal head could not have been thoroughly divided by the subcutaneous method; not, at any rate, with safety. The use of the open method did not prolong the convalescence in the least. Case 32: this is a new and very efficient operation for bunion (Cheyne). Case 35: by operating on the tibialis posticus by the open method, all risk to the artery is avoided, and the tenotomy is thoroughly performed, the time of healing is not prolonged. In all the cases of club foot, a well-fitting stiff boot was found to be much superior to plaster of Paris. The hardness of the bones in Case 37, as compared with Case 29, was probably due to the fact that the latter had been accustomed to walk while the former had not.

OPERATIONS ON EMPYÆMATA (3 Cases).

Case 38.

A. P., aged 32; married woman. Admitted February 2, 1894; discharged May 26, 1894.

This patient was sent from London to St. Andrew's Convalescent Home, with a history of pleurisy six weeks previously. On admission there she was found to have an evening rise of temperature, and left side of her chest showed the physical signs of fluid. A hypodermic needle

drew off pus. She was transferred to the Victoria Hospital, and the same day, under chloroform, an inch and a-half of the seventh rib was removed in the axillary line, and a large drainage tube inserted. After eight weeks the discharge became serous; the tube was then made shorter and shorter, and finally removed on April 28, and the wound was allowed to heal. She left the hospital cured on May 26. The whole side expanded well, but the resonance was still slightly impaired. The breath-sounds were good all over. Temperature has been normal since the operation.

Case 39.

R. B., aged 36, labourer. Admitted June 19, 1893; discharged July 28, 1893.

On May 24 patient had an attack of pleurisy on the right side, and on June 5 the medical man under whose care he was, removed a large quantity of pus from his chest by aspiration, as temperature had risen to 104° . When admitted, the right side was dull on percussion up to the clavicle, and no normal breath-sounds were to be heard anywhere on that side. Temperature 102° . The same evening an inch and a-half of the sixth rib was removed in the mid-axillary line, and twenty-five ounces of pus evacuated and a tube inserted. After the operation the temperature fell to, and remained at, normal. The wound was healed by July 21, and the patient was discharged cured a week later. Beyond a slight flattening of the percussion note, there was no difference between the two sides of the chest.

Case 40.

J. D., aged 22, seaman. Admitted January 28, 1892 discharged March 23, 1892.

This patient had had pleurisy with effusion one month before. When seen then the fluid extended up to the angle of the scapula. For two weeks this remained stationary, then temperature began to rise, and the fluid to extend higher in the chest.

On admission dulness and feeble breathing reached second rib in front and spine of scapula behind. Temperature 101° . Under chloroform an inch and a-half of bone was removed from the seventh rib in the mid-axillary line, and a tube inserted. On March 1 the tube was removed, and the wound was healed by March 14. Both sides of the chest expanded well, and there was very little difference in the percussion note.

Remarks.—In all three cases pus had undoubtedly existed for some time in the chest, yet all three made a good recovery. The temperature in all was practically normal during the whole treatment after operation; before it they were 102° , 103° and 101° . In none of them was any washing-out done, or anything put in the pleural cavity except a large drain-tube. The discharge became serous in two or three weeks after the operation. When it had been serous a week the tube was left out, and the wound allowed to heal. All three cases ran a perfectly aseptic course.

The Operation.—The incision is made over the sixth or seventh rib in the mid-axillary line, and the intervening muscles, &c., are drawn aside. The periosteum on the rib is then incised in a direction parallel to the length of the rib, and detached freely from both sides, to allow the bone to be divided with bone forceps. The pleura is then opened by pushing in dressing forceps, and removing them with the blades apart, so as to allow the large drain-tube to be inserted.

OPERATIONS ON EPITHELIOMATA (3 Cases).

Case 41 (Epithelioma of Abdominal Wall).

M. W., aged 61; an untrained monthly nurse. Admitted March 6, 1892; discharged April 8, 1892.

This patient, who up to two weeks before admission had been carrying on her work attending patients at their confinements, had for the past year been suffering from a foul smelling fungating tumour of the abdominal wall. On examination, a tumour was seen on a level with the umbilicus and commencing two inches from it. It was circular, semi-globular, about two and a-half inches in

diameter, and the whole surface covered with red discharging granulations. The tumour was movable over the muscles beneath.

Operation.—An incision was made all round the tumour at a distance of about one quarter of an inch, and the tumour with the underlying cellular tissue dissected off the external oblique. A wound three inches in diameter was now left. In order to bring the skin together over this, the surrounding skin and subcutaneous tissue were separated from the underlying muscles for three to four inches in all directions round the wound. By keeping the shoulders forwards with pillows, and the hips flexed so that the legs formed a right angle with the body, the edges of the wound were brought into close apposition. Healing was complete in about ten days, but patient was kept in bed another week to allow the scar to become firm. The temperature for five days after the operation varied between normal and 101° (tension?); thence it remained normal. The thigh was then gradually extended a little further each day until it could be brought straight. She was then allowed to get up, and sit in an arm chair for another week.

On April 8 she left the hospital with the wound firmly healed, and able to walk as erect as usual.

A year afterwards there had been no recurrence.

Case 42 (Epithelioma of Mouth).

E. W., aged 67, woman. Admitted July 4, 1892; discharged July 18, 1892.

This patient was admitted with an epithelioma at the right angle of the mouth about the size of a shilling. It had commenced in a crack four months previously at the angle of the mouth, and had spread thence on to the contiguous portion of the face.

On admission, the growth was raised above the surface of the skin, partly covered by a scab. Two large granulation masses projected into the mouth.

Operation.—The growth, together with the whole thickness of the cheek under it, was removed by two curved incisions passing above and below the growth, and distant about a third of an inch. The edges were then brought together by two stout wire sutures, and a few intermediate

silkworm sutures. No dressing was used. The wound healed with very little deformity, and the patient left the hospital well, two weeks later.

The patient has not been seen since, but as she lives in the neighbourhood, she would probably have returned had the growth recurred.

Case 43 (Epithelioma of Face).

S. G., aged 58. Admitted February 28, 1893; discharged March 6, 1893.

This patient had suffered for two years from a slowly growing epithelioma at the inner angle of the right eye.

On admission, it was about the size of a sixpence, ulcerated in the centre with projecting granulations at the edges. The centre was covered with a scab, which was easily removed.

Operation.—An incision was made all round the growth, which was then removed with the underlying structures down to the periosteum. The wound was then rubbed over with a stick of nitrate of silver, and dressed with boracic ointment. It healed well, leaving a depressed cicatrix. The temperature never rose above normal.

In August, 1894, there had been no recurrence.

The growth was examined microscopically by Mr. John Stainer, and found to be an epithelioma.

OPERATIONS ON COMPOUND GANGLIA (2 Cases).

Case 44 (Compound Ganglion of Wrist).

F. F., aged 43, bandsman. Admitted November 13, 1891; discharged December 30, 1891.

This patient, who was a member of the town band as drummer, had been compelled to resign his post owing to a large compound ganglion of the extensors of the right hand at the wrist joint. Since then he had taken to shaving as a trade, but owing to the increase in the pain, he was then unable to shave his customers.

Operation.—An incision three inches long was made over the ganglion, and the latter incised. It was found to

be solid, with a few melon-seed bodies in the centre. The mass surrounded all the tendons at the back of the wrist for one and a-half inches above, and one inch below, the annular ligament, under which it passed. The annular ligament was therefore divided in the centre, and turned inwards and outwards. Each tendon was now separately cleared of the growth, and replaced. When the whole growth had been removed, the annular ligament was united by catgut sutures and the wound closed. The wound had healed at the end of the week, and passive movement was commenced. Six weeks later he had recovered perfect movement of the wrist joint without any pain.

It is interesting, in view of the proved tubercular nature of these growths, that this patient died two years later of pulmonary phthisis.

Case 45 (Compound Ganglion of Wrist).

B. S., aged 11, girl. Admitted November 16, 1892; discharged January 22, 1893.

This patient suffered from a solid compound ganglion of the flexor tendons of the wrist extending slightly above, but chiefly below, the annular ligament into the hand. This had been operated on six months previously by a surgeon, who failed to remove all the growth. A second operation had been performed at a provincial hospital. When admitted, the growth was smaller than when seen six months previously (before the first operation), and a sinus, the result of the second operation, extended from the palm one and a-half inches upwards. The hand was still useless from restricted movement and pain.

Operation.—An incision two inches long was made over the growth, and the sinus dissected out. Each tendon was then in turn cleared of the growth and inflammatory tissue. The annular ligament being next divided, the tendons under and above it were cleared. The ligament was next united with catgut, the wound sutured, and a drain tube put in. The wound ran an aseptic course, and passive movement was begun at the end of a week. There was some stiffness at first, but perfect movement was eventually obtained, and is now permanent.

August, 1894.—The patient is at present suffering from strumous glands in the neck.

Remarks.—These two cases show how one may open up the tendons of a joint like the wrist joint without fear of inflammation or subsequent stiffness, if only the wound be kept aseptic, and passive movement be begun early. In the first case the temperature rose to 100° the evening after the operation, but afterwards remained normal. In the second, the temperature never went above the normal line.

OPERATIONS ON HERNIÆ (12 Cases).

Case 46 (Strangulated Inguinal).

M. D., aged 44, married woman. Admitted November 23, 1891; discharged December 14, 1891.

This patient was admitted with a left inguinal hernia, which had been strangulated for two days. She had very lax abdominal walls, and had been operated on a year previously for a strangulated femoral hernia of the right side. Since then, she had been wearing a double truss. The right hernia still comes down when the truss is off, but is easily returned.

Reduction of the left being found impossible by taxis, the hernia was cut down on, the constriction divided with a hernia knife in a direction upwards, and the intestine returned. The sac was now dissected out, ligatured at the neck, and cut off. The pillars of the external ring were now brought together with two stout silk ligatures, and the wound sutured without drainage. The wound healed in a week, and two weeks later the patient was discharged, wearing her old truss: Temperature 99½° on the evening after the operation, then normal all along. For six months there was no return of the left hernia, but she then fell down stairs which brought the rupture down again.

Case 47 (Femoral Hernia: Radical Cure).

On August 28, 1893, she again applied for relief, because the truss did not keep up the right hernia and she was

consequently incapacitated from work. On examination, it was found that the abdominal walls were more lax than before, and that the right femoral hernia was much increased in size. There was also a tendency to a second hernial protrusion three-quarters of an inch above and external to the right external abdominal ring. A new and larger truss having been tried without success, the following operation was performed.

The hernia having been returned, an incision was made over the sac, which was then dissected up. This was next ligatured with stout silk and cut off, the ligature being left long. Each end was in turn threaded on a needle in a handle and passed separately through the abdominal wall above Poupart's ligament, from within, about half an inch apart. These were then tied. This fixed the stump well within the abdomen, and formed a plug to the inner opening of the crural canal. A triangular flap was next dissected up from the pectineus muscle about one and a-quarter inches long with the apex upwards. A silk ligature was then passed through each lower angle, and the muscular flap pulled up into the crural canal and fixed to the abdominal wall in the same manner as the sac. The skin was then brought together, and the wound dressed. (The above operation is that devised by Mr. Watson Cheyne.) The wound healed rapidly without drainage, but the patient was kept in bed for another month to allow the parts to consolidate. The temperature was 100° the day after the operation ; the rest of the time normal.

Seen a year later, the cure is permanent, although no truss has been worn on that side.

Case 48 (Inguinal Hernia : Radical Cure).

J. B., aged 15, boy. Admitted April 19, 1892 ; discharged May 28, 1892.

This patient suffered from a small right inguinal hernia which he wished cured, in order that he might join a club.

Operation.—The sac being dissected up, ligatured and cut off, two thick silver wires were passed through Poupart's ligament, the margins of the internal abdominal ring, and out through the internal pillar of the external abdominal ring. These wires were about half an inch

apart. When twisted up, the sides of the canal were in contact, except at the lower part where the cord was. The wires were cut off and left in permanently, and the wound sutured. The temperature remained between 99° and 100° for three days after the operation. Thence it was normal. The patient made an uninterrupted recovery, but was kept in bed a month longer to allow the parts to consolidate.

Case 49 (Inguinal Hernia : Radical Cure).

H. M., aged 20, domestic servant. Admitted July 5, 1892; discharged August 10, 1892.

This patient suffered from a left small inguinal hernia, and preferred cure by operation to having to wear a truss all her life.

The operation was done exactly as in the previous case. Temperature never rose above 99°.

Note.—Seen six months later. There had been no return of the hernia, and she had left off the light air pad truss, which was given her when she left the hospital.

Case 50 (Femoral Hernia : Radical Cure).

S. S., aged 49, married woman. Admitted January 16, 1893; discharged February 15, 1893.

This patient was admitted with a left femoral hernia, which had existed for several years. The hernia was about the size of a hen's egg, and although she had had several kinds of trusses, none ever kept it up for long. The hernia had been several times strangulated, and was only reduced under chloroform with great difficulty.

Operation was therefore advised, and performed as follows: An incision was made over the sac, and this dissected up. The neck was then ligatured, and the ends of the ligature passed through the abdominal walls, and tied. The sac was then twisted on itself, the end ligatured in the same way as the neck had been, and the ends of the ligature passed in the same way with a needle through the abdominal wall from within outwards and tied. The crural canal was thus efficiently plugged by the twisted empty sac. The wound healed rapidly, and the patient

left the hospital a month after the operation, wearing a light air pad truss. There was every appearance of the hernia being cured. The temperature was $99\frac{1}{2}^{\circ}$ the day after the operation; thence normal.

August, 1894.—The hernia has not recurred.

Case 51 (Strangulated Femoral: Radical Cure).

M. B., aged 65, woman. Admitted November 28, 1893; discharged December 22, 1893.

This patient had worn a truss for some years for a right femoral hernia, which had been strangulated for two days.

Operation.—An incision was made over the sac, the sac opened, and the gut found a dark purple colour. The ring was slightly incised, and the gut returned. The sac was next freed, ligatured, cut off, and the ends of the ligature passed through the abdominal walls and tied. Thus a plug was formed to the internal ring. The temperature remained between 99° and 100° for a week after the operation, and then sank to normal. Three weeks later she left the hospital well, but wearing a well-fitting truss.

In August, 1894, there had been no recurrence.

Case 52 (Strangulated Inguinal: Radical Cure).

H. S., aged 52, labourer. Admitted February 2, 1894; discharged April 21, 1894.

This patient had suffered for many years from a right inguinal hernia about the size of a fist, for which he had worn a truss. Two days previously the hernia became strangulated, and he was advised to come into the hospital. He, however, had delayed.

On admission he was slightly cyanosed, due to upward pressure on his chest from an immensely distended abdomen. Pulse and breathing very rapid.

Operation was performed at once. An incision two and a-half inches long was made over the tumour, and the sac opened. The gut was deeply congested, but not gangrenous. It was found necessary to incise the internal ring, but even after this all attempts to return the gut

proved ineffectual owing to the great abdominal distension. Ultimately it was found necessary to puncture the intestines through the abdominal walls. This was done in three places over the colon with a hydrocele trocar and canula, and in four places over the small intestine with the needles of a hypodermic syringe. The strangulated portion of gut was also punctured with a hypodermic needle. After this the hernia was easily returned. The condition of the patient precluded much prolonging of the operation, so three silver sutures, half an inch apart, were passed through the margins of the canal, passing over the cord, and tied so as to bring the sides into apposition without pressing on the cord. The wires were thus partly intra-peritoneal (sac), and partly extra-peritoneal. The wound was then sewn up and dressed.

For the next week the temperature rose from 100° to 101° , and patient was delirious at night. On the third night he managed to get out of bed, and walk to the lavatory. It was found that he had removed the dressing. Though it was soon re-applied the wound unfortunately went septic, and sinuses formed. After four weeks it was found necessary to remove one of the silver sutures to which all the sinuses seemed to lead. After this, healing proceeded rapidly. The rupture did not show any sign of recurring, but it was thought best to advise him to continue wearing a truss.

In August, 1894, he was still wearing the truss, and there had been no recurrence.

Case 53 (Congenital Inguinal : Radical Cure).

W. T., aged 6, boy. Admitted March 6, 1893; discharged April 4, 1893.

This patient had always suffered from a left congenital inguinal hernia. Two years previously he had been operated on by another surgeon at his own home, but the hernia had returned. It was now about the size of a pigeon's egg.

Operation.—An incision was made over the hernia, the sac dissected up, ligatured, and cut off. Three silkworm sutures one-third of an inch apart were then passed through the two sides of the canal, bringing it closely together, except at the lower part, where the vas deferens was. At the end of four weeks he was discharged well.

Three months later a sinus formed in connection with the stitches, and did not heal until all were removed.

A year later there was no sign of recurrence.

Case 54 (Congenital Inguinal: Radical Cure).

A. F., aged 22, engineer. Admitted March 16, 1893; discharged April 14, 1893.

This patient had a right inguinal hernia. He had never had any treatment for it, and only wanted it cured so that he could join a club. The hernia was about the size of a large hen's egg. At the operation it was found to be a congenital hernia.

Operation. — An incision three inches long was made over the hernia. On attempting to clear the sac from the cord, this was found impossible, as it was very thin and completely surrounded the vas deferens, which thus appeared to be in the centre of the sac. The lower part of the sac was partially divided, and closed by a row of cat-gut sutures to form a tunica vaginalis, while as much of the upper part as possible was ligatured. Incisions were now made through the aponeurosis of the external oblique muscle internal to the inguinal canal, so as to turn down a triangular flap, and so open the inguinal canal. The cord being now pulled aside, the lower borders of the internal oblique and transversalis were fixed to Poupart's ligament by means of a bootlace suture of silkworm gut. The cord was then laid on the internal oblique, and the triangular flap of external oblique aponeurosis fixed in its place by a row of silkworm sutures. Next the external abdominal ring was narrowed by a single suture. Thus, for the hernia to recur, it would have to make a new opening through each of the abdominal muscles in spite of the thickening caused by the sutures. This being almost impossible, no truss need be used after this operation (Cheyne).

No drainage was used, and the wound was found healed at the second dressing at the end of a week. Temperature rose to 101° the day after the operation, on the second day 100° , for the next week 99° , thence normal. He remained in bed another three weeks, when he insisted on going out and returning to work.

A year later there had been no recurrence, and he was still working hard as engineer and stoker on one of the steamers.

Case 55 (Strangulated Umbilical Hernia: Radical Cure).

J. G., aged 71, sign painter. Admitted August 20, 1892 ; discharged September 3, 1892.

This patient was a fat man, with big abdomen, who had suffered for twenty years from an umbilical hernia the size of a pigeon's egg. For this he had worn various trusses, in spite of which it often came down, but he was always able to return it. On August 20 he suddenly got pain in the hernia, and noticed that it was hard and could not be returned. Soon after he began to be sick. Seen by his doctor, he was sent at once to the hospital, where the following operation was done.

Operation.—An incision was made into the sac, in which was found a small knuckle of intestine embedded in omentum. The intestine was returned, and the omentum ligatured in segments and cut off. Next the sac dissected out, ligatured at the base, and cut off. A stout silver suture was now passed through the margins of the ring, and twisted up, bringing the margins of the ring into close apposition. The wound was then closed, the silver wire being left in permanently. At the end of two weeks the patient left the hospital well and without wearing any truss. The day after the operation the temperature rose to 99°, but otherwise was perfectly normal.

Seen a year later, he had had no further trouble with the hernia, and had not worn any truss.

The two following cases which occurred in private practice, are mentioned here as being of interest in connection with the above.

Case 56 (Strangulated Inguinal Hernia).

A gentleman, aged 50, had for some years worn a truss for a right inguinal hernia. He was accustomed to return it himself whenever it came down. On July 8, 1893, he replaced it as usual, but the returning of it was followed

by considerable pain. The next day vomiting commenced and continued for four days. On the third day from the reducing of the hernia there was considerable pain in the right side of the abdomen, with slight jaundice and bile-stained urine. The diagnosis of intestinal obstruction from gall-stones seemed now the most probable cause. He was advised by Dr. Colbeck, of Dover, to see a surgeon, but delayed two days longer.

When seen, July 14, he was in a very low condition, having been vomiting for nearly five days, and having had no action of the bowels since then. The jaundice had disappeared. The abdomen was distended. On examination it was noticed that the abdomen was very slightly more prominent over the outer part of the situation of the internal abdominal ring. It was therefore suspected that the hernia was not properly returned five days before, but had been pushed up between the layers of the abdominal wall.

Operation was at once decided on. An incision was made over the prominence before noted, through the skin and abdominal muscles, and a knuckle of intestine found pushed up between parietal layer of the peritoneum and fascia transversalis. Though very congested the intestine was not gangrenous, and was therefore returned into the abdominal cavity. The divided muscles were brought together with two silver sutures, and the wound closed. The whole operation, including the anæsthesia, had occupied fifteen minutes.

The patient passed fæces and flatus freely within an hour of the operation. For the next three days, except for want of sleep, the patient did extremely well, when he suddenly began to be delirious. He was given thirty drops of tincture opii, and ordered brandy. After the opium he slept for two hours, but was delirious again all night. Next morning he was weaker. It was then found that he had been for years in the habit of privately injecting large quantities of morphia for a painful scar in the leg. He had been unable to get the morphia while he had been in bed for the last nine days. He had also been, to a large extent, deprived of food owing to the vomiting; hence his delirium and exhaustion. He was ordered to be kept under opium, and a bottle with directions was left for the purpose. Unfortunately the order was not carried out.

The patient then gradually sunk, and died early on the fifth day from the operation.

Case 57 (Strangulated Femoral Hernia).

An old lady, aged 75, who had suffered for years from an irreducible right femoral hernia, sent for medical aid on account of vomiting, which had continued for two days. Her tongue was clean and moist. She had some pain in the rupture, but did not connect this with the vomiting; she had often previously had pain in the rupture, and she had often suffered from vomiting. She had had no action of the bowels for three days, but she always suffered from constipation. The diagnosis of strangulated hernia was made, and operation advised.

Operation.—An incision was made over the hernia, which was somewhat larger than a large hen's egg, and the sac incised. This was found to contain a large quantity of strangulated omentum, and an intensely congested knuckle of intestine. The latter was returned, the omentum tied in segments and cut off. The wound was then closed, no attempt being made at a radical cure on account of her age.

In a week the wound was healed, and in two weeks she was able to walk round the garden, wearing an air-pad truss.

OPERATIONS ON JOINTS (4 Cases).

Case 58 (Knee-Joint).

S. W., aged 23, housemaid. Admitted November 16, 1892; discharged January 26, 1893.

This patient had suffered for a year and a-half, from symptoms of loose cartilage in the left knee-joint. She had had to give up her place on account of liability to sudden attacks of pain in the knee when going downstairs, and sometimes when walking. When the pain came on she was liable to fall down, and the joint became swollen and tender for a few days after. Latterly the pain had been more or less continuous, but she was still liable to exacerbations of pain, with temporary fixation of the joint

on going downstairs. She had been admitted earlier in the year, and had been treated successively with rest, pressure, Scott's dressing, splints, blisters and the actual cautery, without any benefit. When under observation in hospital there was some doubt as to whether she was really in such pain as she said. The joint, however, was always a little swelled, and there was undoubtedly excess of fluid in the joint. In May, 1892, a year since the complaint began, she was sent up to London to see Mr. Watson Cheyne. He doubted the existence of a loose cartilage, but thought possibly the semi-lunar cartilage might be loose. He advised waiting six months, and if no improvement then, that the joint should be explored. By the end of November there was no improvement, and the patient was most anxious to be able to work again.

Operation was therefore determined on. An incision parallel to the inner edge of the patella, and half an inch from it, was made about two inches and a-half long, reaching into the capsule of the joint. A considerable quantity of synovial fluid escaped. The joint was now thoroughly explored with the finger. Except for some looseness of the internal semi-lunar cartilage, the joint appeared normal. The internal semi-lunar cartilage was now fixed to the periosteum, covering the head of the tibia with three stout catgut ligatures, and the wound closed without drainage. The wound was dressed three times, and in two weeks was well healed. There was some stiffness of the joint for three months after, owing to her fear of using it. By the end of April she had recovered most of the movement and only had a little aching in it occasionally. In June she was well enough to take a situation, where she has been quite well since. -

Case 59 (Elbow-Joint).

S. H., aged 9, girl. Admitted January 26, 1893; discharged February 28, 1893.

This patient had a year previously had a fall, and injured her right elbow. She had no medical treatment at the time, and since then she had been almost unable to bend her elbow.

On admission patient was found to have the elbow midway between flexion and extension. The movements of

flexion and extension were only about one-eighth of the natural. She could not touch the back of her head with the fingers of her right hand.

Operation.—Reduction under chloroform having been attempted and found impossible, an incision was made over the outer side of the joint, and the neck of the radius exposed; this divided with bone forceps, and the head of the radius removed.

Full range of movement could now be obtained. The wound was sewn up without drainage. In ten days healing was complete, and passive movement begun. At the end of a month she left the hospital, having considerably benefited by the operation, but not having so much movement as under chloroform. This, however, improved after a time.

When last seen in April, 1894, she had about seven-eighths of the normal range of movement.

Case 60 (Excision of the Knee).

A. W., aged 21, servant girl. Admitted March 6, 1893; discharged August 24, 1893.

This patient, who was admitted for necrosis of the scapula, was found to have a large tubercular knee-joint. This had existed for some time, but had only recently begun to pain her. Lately it had also increased much in size. In spite of a month's rest in bed following the operation on the scapula, the swelling had gone on increasing, and was now (April, 1893) a very large white swelling, with fluctuation in parts, and pains and startings at night. Amputation was advised, but refused. Excision of the joint was therefore performed, in the hope that this might prove sufficient.

April 6, Operation.—A horeshoe-shaped incision was made over the joint in front below the patella, and a large flap turned up. All the tubercular matter was removed by the knife or Volkman's spoon, and the ends of the bones sawn off. Some pulpy tubercular tissue was then dissected off the popliteal vessels, and the femur wired to the tibia by two stout silver wire sutures. The skin was then brought together by silk stitches, and a large drainage tube inserted. The wound ran an aseptic course, but a piece of skin about the size of a two-shilling

piece—over the front of the joint—sloughed. The rest of the wound healed well, but the part from which the slough separated did not. During the next few months this latter became a tubercular ulcer. The disease, too, recurred in the bones, and parts around. The temperature, which had been rising above 100° for ten days previous to operation, after the operation rose only to 99° each day, and after two weeks did not rise above normal.

Amputation was again advised, but refused, and the patient left the hospital incurable at the end of August.

Case 61 (Knee and Wrist-Joint).

R. H., aged 27, discharged soldier. Admitted October 24, 1893; discharged February 5, 1894.

This patient, who had been a few months previously discharged from the army for phthisis, applied for relief for inability to use either the right wrist or left knee, both being swollen and painful. He was found to have advanced tubercular disease of both.

It did not appear a very hopeful case, but as he was suffering a great deal of pain, it was decided to try to relieve him by operation, as a month's rest in bed with splints had failed.

Operation on the Knee, November 20.—An incision two inches long was made close to the inner border of the patella, and the joint opened. Some fluid escaped, but the joint cavity was mostly occupied by rather firm gelatinous tubercular matter. This was removed with the finger, a drainage tube inserted, and the joint sewn up. At the end of a week there was no discharge, and the pain had entirely gone. The tube was therefore left out and the wound allowed to heal.

Operation on the Wrist.—The relief from pain which followed the operation on the knee gave encouragement to operate also on the wrist. This was done on November 30. An incision two inches long was made on each side of the wrist-joint, and all the tubercular tissue scraped or cut away. The lower end of the radius contained a large cavity occupied by tubercular matter. This was scraped out, and a drainage tube inserted. At the end of a week the tube was removed and the wound allowed to heal.

The temperature rose slightly after each operation, but was more or less hectic all through.

Subsequently several other tubercular deposits occurred in different parts of the body, as on the forehead and ribs, and as others kept appearing, there seemed no prospect of permanent cure. He was therefore discharged, after being three months in the hospital.

OPERATION ON THE MEDIAN NERVE.

Case 62 (Suture.)

W. W., aged 45, barman. Admitted February 7, 1894; discharged February 20, 1894.

The right forearm was cut three months previously through the bursting of a soda water bottle. The cut was on the outer side of the forearm, about the middle. The radial artery was found cut, and some of the tendons. The fact that the median nerve had been cut was overlooked, and a message from the surgeon who sent the case in, that it was severed, failed to reach the surgeon who first attended to the case. The artery was tied, the tendons sutured, and the wound closed. It healed by first intention. It was then noticed that there was numbness over the whole area supplied by the median nerve. Tactile sensation was quite abolished over both sides of the two terminal phalanges of the index, middle and half the ring fingers, and also over the whole of the terminal phalanx of the thumb. Over the rest of the part of the hand supplied by the median it was nearly abolished, but not quite.

Operation.—An incision was made in the forearm over the course of the median nerve, and crossing the scar in its centre. The median nerve was found displaced outwards half an inch. Under the cicatrix it was imbedded in a mass of scar tissue. On dissecting the nerve out of this it was found that the two cut ends of the nerve were bulbous, and separated by half an inch of scar tissue. The bulbous ends were removed, together with the intervening scar tissue. The hand was now flexed in order to bring the ends together, and these were then united by five silk sutures. One large one was passed through each end about one-third of an inch from the end, and tied so as to bring them into apposition. Two fine silk sutures were then

passed through both on the under surface, and two more through both ends on the upper surface. The ends were then in close apposition. The wound was now sewn up without drainage. The arm was fixed on a splint with the hand flexed.

The wound healed in a week. It was then dressed, the stitches removed, and the arm fixed with the hand flexed, in plaster of Paris. It was kept thus flexed for six weeks. Then, it being judged that the nerve was firmly united, the hand was gradually extended and got into use again. No stiffness resulted from the enforced flexion.

The scar tissue from between the bulbous ends was found, microscopically, to contain a few atrophied nerve fibres, and dense fibrous tissue.

The temperature was normal on the night of operation, 100° on the second night, 99° on the third, and normal after.

OPERATIONS ON THE RECTUM (4 Cases).

Case 63 (Prolapse).

J. J., aged 58, man. Admitted March 29, 1893; discharged April 17, 1893.

This patient had been suffering for some years from prolapse of the rectum, the bowel always coming down whenever he passed a motion. At first he had always been able to return it himself, but latterly he had always had to send for medical aid. A previous operation, consisting in the removal of strips of mucous membrane, having failed, the following operation was performed.

Operation.—The prolapse having been pulled down as far as possible, the base was transfixed all round with silk sutures placed about one-third of an inch apart. The prolapse was then clamped tightly in separate pieces and cut off with a Pacquelin's cautery. The sutures, which had been previously passed, were then tied, and the wound dressed with iodoform and perchloride wool. The temperature rose to 100° the day after the operation, and on the fourth day to 102° , on the fifth day it was 100° , and after that it remained normal. The patient was discharged cured at the end of three weeks. A year later there had been no relapse.

CASES OF HÆMORRHOIDS.

Cases 64, 65, and 66.

R. M., aged 56, labourer. Admitted October 17, 1891; discharged November 5, 1891.

S. H., aged 44, dressmaker. Admitted Nov. 23, 1891; discharged December 14, 1891.

E. G., aged 48, dressmaker. Admitted October 3, 1892; discharged November 1, 1892.

These three cases were all bad cases of hæmorrhoids, and in all the same operation was performed. All three were cured by the operation, which was as follows :

Operation.—Each mass was pulled down in turn with file forceps, and fixed at the base with a Benham's pile clamp, which was then screwed as tightly as possible, left on for one minute, then the pile was cut off, and the clamp removed. Then another mass was treated in the same way until all were removed. An iodoform and morphia suppository was then inserted, and some perchloride wool fixed on with a T bandage. The wound was dressed twice daily, and well washed with 1-2,000 perchloride. The temperature in each case rose to 99° on the night after the operation, and then remained normal. The bowels were relieved on the fourth day with a dose of white mixture (mag. sulph.). The time from the operation to the time of being quite healed was in each case about three weeks.

In six cases in private practice the result has been the same, but in one there was considerable hæmorrhage on the day after the operation. This, however, stopped without treatment.

OPERATION ON THE SCALP (1 Case).

Case 67 (Abscess).

P. C., aged 6, girl. Admitted November 6, 1893; discharged December 3, 1893.

This patient had had a blow on the head a month previously. A hæmatoma formed, which afterwards suppurated. It was treated by her doctor with poultices.

On admission the whole scalp was separated by pus from an inch to an inch and a-half from the bones of the

skull. It extended down the forehead and temporal fossæ, and as far as the superior curved lines behind. The swelling gave an appearance as if the lower half of a cottage loaf had been pressed on to the head. In the centre of the scalp, over an area about the size of a penny piece, the skin was sloughing and allowing pus to ooze through. The hair was full of dried pus, and pieces of linseed poultice.

Operation was performed same day as admission. Chloroform given. The scalp was shaved and purified. Incisions an inch long were then made in front, behind, and at the sides at the lowest parts, and the sloughing surface in the centre removed. The abscess cavity was then freely irrigated with warm 1-4,000 sublimate solution. Long drain tubes were then inserted, extending the whole length of the cavity, both from before backwards, and from side to side. Three smaller ones were also inserted where it was thought pus might collect. The usual dressings were then applied. The pus evacuated measured twenty-four ounces.

Wound was dressed and irrigated daily with 1-2,000, the tubes gradually shortened until they could be removed altogether. The temperature was normal the day of the operation and two succeeding days, when it was 102° , 100° , and $99\frac{2}{5}^{\circ}$. Ultimately the wound healed well. There was never any fresh collection of pus, and no operative measures were necessary after the first.

OPERATION ON A SPINA BIFIDA (1 Case).

Case 68.

P. G., aged 7 weeks, infant. Admitted July 20, 1892; discharged August 8, 1892.

This child had had several fits each day since its birth. On admission it was seen to have a spina bifida over the lumbar region, about the size of half an orange. The tumour had been rubbed on the top, and had then a scab about the size of a sixpence surrounded by a red areola. As the child could not live altogether in the hospital, and as it was certain that the tumour, if it remained, would receive such injury that it would cause death if sent home, it was thought best to make some attempt to cure it.

By careful examination with transmitted light, no sign

of any nerves could be seen. It was, therefore, thought that it might be possible to remove the sac altogether.

Operation.—An incision was made on the right side, and the finger introduced. The nerves were then felt coursing all over the outer wall of the sac, and the fact was afterwards verified by a momentary look at them. Pressure was then made on the sac and the wound closed with sutures. About an ounce of cerebro-spinal fluid escaped during the operation. The wound healed rapidly, and the size of the sac was kept small by the pressure of a circular lead plate in the dressings. After the operation there were no more fits, and the patient was sent home wearing a padded leather plate over the sac, which was reduced about two-thirds in size. A short time after going home, the fits recurred and the patient died in one about ten days later.

Remarks.—The fits seem to have been connected with the feeding of the infant, which was not looked after intelligently at home. The cessation of the fits after the operation was most probably due to its being fed properly in the hospital. The child did not suffer in any way from the operation. At the operation the sac, which was not covered with skin, was found to be much thicker than it appeared from external examination. This explained the failure to see the nerves through it by transmitted light. The thickness was about one quarter of an inch.

The patient also had double talipes varus.

OPERATIONS ON STRICTURES (2 Cases).

Case 69 (Extravasation of Urine).

J. C., aged 49, sailor. Admitted April 28, 1894; discharged May 14, 1894.

This patient was admitted for retention of urine from an old traumatic stricture. There had been retention for about eight hours, and there was a hard swelling in the perinæum, due to possibly commencing extravasation of urine. Patient had never had any treatment for his stricture. Temperature normal.

Operation.—Chloroform was given and the stricture dilated sufficiently with Lister's bougies to admit a No. 6 silver catheter; this was tied in.

The stricture seemed to be an inch in length and very cartilaginous. Great force was required to dilate it. Two days later, the catheter was removed for cleaning purposes; it was then found impossible to insert another. Retention came on again the same night, and the bladder had to be aspirated. Next morning, May 1, the penis and scrotum began to swell rapidly, and it was evident that extravasation was taking place. Temperature had risen to 101° .

Operation.—Chloroform was again given, and the stricture dilated again with Lister's bougies and a No. 10 catheter tied in. Incisions were then made in the scrotum, perinæum and under surface of the penis, and pus and urine evacuated. For the first two days the urine came entirely through the incisions, but afterwards most of it came through the catheter. The temperature gradually fell after the operation, reaching normal on the tenth day. A month later he left the hospital to be attended by his own doctor at home.

July 19.—Except for a sinus in the perinæum, and a urinary fistula underneath the penis, the patient is quite well.

He then went to University College Hospital, where the fistula was operated on and cured.

Case 70 (Perineal Abscess).

C. L., aged 37, labourer. Admitted September 25, 1893; discharged October 10, 1893.

This patient, who had suffered for some years from a stricture and chronic gleet, was admitted for a perineal abscess. There was no retention of urine; the stricture admitted a No. 3 catheter.

Operation.—The abscess was incised, and about an ounce of pus evacuated. No connection was noticed with the urethra, nor did any urine afterwards escape. The stricture was then dilated with Lister's bougies so as to admit a No. 8 catheter. The abscess healed well, and the patient left the hospital cured. The stricture had to be gradually dilated to normal.

Remarks.—These two cases show the great advantage of Lister's bougies. In two cases in private practice the result has been the same. In one, there had been for some months a stricture through which no catheter could be

passed, and the urine dribbled away from a chronically over-distended bladder. In the other, acute retention came on suddenly, followed in a few hours by extravasation. In both, the strictures were rapidly dilated, the latter with chloroform, with Lister's bougies to about No. 6 catheter size, so that the patient could pass water easily.

OPERATIONS ON STRUMOUS GLANDS (14 Cases).

Cases 71-84.

1891.

(1) A. R., aged 28, servant. Painful strumous glands in neck and other parts.

1892.

(2) F. Y., aged 9, boy. Submaxillary strumous glands.

(3) E. W., aged 16, girl. Strumous glands in neck. Many previous operations.

(4) L. W., aged 14, girl. Strumous glands in neck; left side.

(5) S. D., aged 2, boy. Strumous glands in neck; left side; sinus.

(6) K. W., aged 24, woman. Strumous glands in neck; left side; sinuses; second operation.

(7) M. R., aged 7, girl. Strumous glands in neck; second operation.

(8) E. S., aged 17, girl. Strumous glands in neck; right side.

(9) B. P., aged 21, man. Strumous glands in neck; right side.

1893.

(10) E. T., aged 25, woman. Strumous glands in neck.

(11) J. W., aged 27, man. Strumous glands in neck; right side.

(12) B. P., aged 22, man. Strumous glands in neck; second operation.

(13) K. C., aged 18, girl. Strumous glands in neck; both sides sinuses.

(14) C. B., aged 33, woman. Strumous glands in neck; both sides; sinuses; fifth operation.

There have been fourteen cases of strumous glands in the neck. Case 1 was a case of general tuberculosis of the

lymphatic glands. Those on the right side of the neck were operated on for pain only. The pain was so excessive that she was unable to obtain any sleep at night. The operation quite relieved the pain, and the wound ran an aseptic course and healed in about ten days. She died within the year of general tuberculosis. Cases 5, 6, 13 and 14 had septic sinuses discharging at the time of operation. By carefully dissecting out the sinuses, removing the inflamed portions of skin, and thoroughly scraping all diseased tissue which could not be removed, the first three of these four ran an aseptic course.

In Case 13 a portion of skin, size of a two-shilling piece, had sloughed away, exposing one of the diseased glands, and leaving the edges red and undermined. The edges were therefore cut away, the gland removed, and the skin freed from the parts underneath for an inch all round the wound. The skin was then brought together with two wire and many silk-worm gut sutures. A linear cicatrix was thus substituted for a large ulcerated surface.

Cases 2, 6, 7, 12 and 14 had been previously operated on, and Cases 6, 11 and 14 have since been operated on again. Thus out of fourteen cases one has died (in one, viz., Case 3, only a partial operation was attempted), and in six recurrence has taken place after operation. The operation (at the Victoria Hospital) has been to remove all the diseased glands which could be found. In several it has been found necessary to peel the glandular mass off the jugular veins, or carotid vessels. The only nerves which have been cut have been the superficial branches of the cervical plexus. In Case 11 a large number of glands were removed from the anterior triangle, and no more diseased glands are to be seen. Six months later recurrence took place, and he went into St. Bartholomew's Hospital, where it was found necessary to divide the sterno-mastoid in order to remove all the diseased glands. Recurrence in half the cases is not very satisfactory. On the other hand, in half there has been no recurrence at present. The operation wounds ran an aseptic course with one exception, Case 14, and all healed in a short time. Previous to operation four had septic sinuses, which were removed, and for which aseptic wounds were substituted in three.

As regards temperature, three kept normal throughout; two did not rise above 99° , and five did not rise to 100° , but were over 99° . The other four had hectic temperatures

ranging between normal and 100° , and were not affected by the operation.

OPERATIONS ON VARICOSE VEINS (12 Cases).

Case 85.

E. W., aged 27, soldier. Admitted July 14, 1891; discharged August 5, 1891.

Patient had a considerable number of tortuous dilated varicose veins in one leg, his reason for applying for treatment being pain. This was so great after only a very little walking that he could not go on active duty. He was discharged cured in three weeks, and in less than seven weeks from the date of operation he commenced to go through the autumn manœuvres at Aldershot, walking about twenty miles daily.

His veins were tied in seven places. The temperature did not rise at all after the operation.

Case 86.

G. S., aged 33, labourer. Admitted August 17, 1891; discharged September 5, 1891.

This patient had an ulcer on the inner part of the lower third of his right leg. From the inner side of the knee to the ulcer the internal saphenous vein was felt and seen to be thickened and dilated. From it were a few branches in the same condition. The main vein was tied in four places. The ulcer and the wounds all healed rapidly, and patient was discharged cured in three weeks.

Case 87.

G. O., aged 49, harbour porter. Admitted August 18, 1891; discharged September 5, 1891.

Patient had suffered for some years from a large painful ulcer of inner side of lower third of right leg. The ulcer was surrounded by patches of eczema. Leading to the ulcer were several varicose veins. These were tied in six

places, and in three weeks both wounds and ulcer had healed, and the patient was discharged. The cicatrix, however, was firmly adherent to the underlying bone. It remained healed for some weeks, but after resuming his work he unfortunately knocked it, making a fresh ulcerated surface. This heals readily when he can rest, but the nature of his occupation necessitating so much standing seems to preclude the possibility of a permanent cure.

Case 88.

A. A., aged 25, man. Admitted September 7, 1891; discharged October 15, 1891.

This patient was a short, fat man, of feeble intelligence. He has suffered for years from chronic mitral disease, and on admission was found to have albumen in the urine. This, however, disappeared after a week's rest in bed. The veins of both legs were intensely congested, both large and small, and the left leg was so painful that he could scarcely get about. This was not a very hopeful case, but it was determined to operate to prevent his becoming bedridden. The worse leg was chosen, and the most prominent veins operated on. These were tied in nine different places. Unfortunately, one of the wounds suppurated (the ligature was suspected), and an abscess containing about two ounces of pus formed. He, however, eventually did well, and was discharged healed, one month after the operation. Seen a year after, he was able to walk without pain, but still had considerable swelling of both legs every night.

Case 89.

E. M., aged 34, domestic servant. Admitted April 1, 1892; discharged April 29, 1892.

This patient had a considerable number of varicose veins of both legs. As each leg required tying in seven places a week was allowed to elapse before operating on the second leg. Both were quite healed in three weeks from the second operation. The temperature rose for the three days after the first operation to 100° , 99° , $99\frac{1}{5}^{\circ}$, and thence was normal. The temperature after the second operation remained normal.

Case 90.

J. H., aged 48, married woman. Admitted October 25, 1892; discharged November 19, 1892.

This patient applied for relief for painful varicose eczema of the leg. As she was found to have several varicose veins, these were tied in five places. The eczema disappeared without further treatment, and the wounds healed in three weeks.

Case 91.

A. E., aged 26, gentleman (private case). Patient was 6ft. 2 in. in height.

This patient applied for relief because of his inability to ride without causing pain or inflammation of his veins. The varicose condition was confined to one leg. The veins of this leg were tied in seven places, and at the end of three weeks the wounds were healed, and the patient allowed to walk out. The veins of the leg were now hardly visible, and he had no pain.

Case 92.

C. C., aged 44, single woman. Admitted April 5, 1893; discharged May 4, 1893.

This patient applied for relief for pain and inability to walk on account of varicose veins in both legs. The veins of the left leg were tied in five places, and the right in three. In three weeks the wounds were all healed, and the dressings left off. Owing to the veins being very thin it was very difficult to see them at the operation, so that one was left which should have been tied. This was, however, tied later on, under cocaine. After the operation the temperature rose for three nights to 99° , but was normal from thence.

Case 93.

E. K., aged 22, domestic servant. Admitted May 8, 1893; discharged June 5, 1893.

This patient applied for relief for pain in the left leg on

standing or walking. The internal saphenous vein, both in the thigh and leg, was dilated and tortuous. This was tied in three places in the thigh, and two in the upper part of the leg. This patient was healed and well in three weeks. The temperature did not rise above normal after the operation.

Case 94.

C. C., aged 24, domestic servant. Admitted September 26, 1893; discharged Oct. 24, 1893.

The patient had varicose veins of both legs. The right was tied in four places and the left in three. The wounds were well, and a small ulcer on the left inner malleolus healed in three weeks. After the operation the temperature rose a little each day for the following week, but never above $99\frac{2}{5}^{\circ}$.

Case 95.

E. O., aged 25, domestic servant. Admitted November 27, 1893; discharged January 1, 1894.

This patient had dilated veins of both legs, which had appeared and became painful in about six weeks. These were tied in six or seven places in each leg, the second being done about three weeks after the first. All were healed, and the patient discharged in three weeks from the second operation. The highest temperatures after the first operation for the first four days were 100° , 99° , $99\frac{3}{5}^{\circ}$, $99\frac{3}{5}^{\circ}$, and thence normal. After the second operation the temperature did not rise at all.

Case 96.

C. D., aged 18, domestic servant. Admitted April 10, 1894; discharged May 4, 1894.

This patient complained of pain from a mass of varicose veins in the right calf. A few veins ran from this towards the ankle and two sides of the leg; these were tied in six places. The temperature before operation went up to 99 each evening, and continued to do so afterwards.

In all these cases the reason for the operation was pain

or ulcers. The latter were only a reason twice ; pain in all the other cases. Nearly all have been seen recently, and are well and free from pain or large veins. The operation adopted has been the same in every case, with the exception of the ligature used ; catgut and very fine aseptic silk have been the substances used. It has been found that the catgut frequently causes a collection of serum, which distends, bursts the soft scar, and finally comes away. The silk did not do this in any of the above cases.

The operation is as follows :—

Two or three days previous to the operation, with the patient standing, the most prominent veins are marked transversely with a wet stick of nitrate of silver ; this is not put on sufficiently thick to blister. At the operation a piece of bandage is tied round the limb above the seat of operation. This is tight enough to constrict the veins, but not the arteries. The veins at the places marked are then in turn cut down on, and as much of the vein as possible pulled out of the incisions (which are about an inch long). The vein is then tied as high up and as low down as possible, and the intermediate part removed with scissors. The wound is then sewn up with thick silk, and no drain is used. If the skin is thinned over the vein, it is removed, or sloughing results.

In two other cases not recorded above, the temperature did not rise after the operation.

OPERATION ON A VARICOCELE (1 Case).

Case 97.

W. N., aged 17 years. Admitted May 16, 1894 ; discharged June 7, 1894.

This patient had suffered for three years from left-sided varicocele, which had lately become larger and painful.

Operation.—An incision was made over the cord just below the external abdominal ring, and the mass of veins pulled up out of the scrotum. These were then transfixed in two places with silk, and an inch and a-half of the mass removed. One end of each ligature was left long, and these tied together. The testicle was thus raised one and a-half inches. The wound was then sewn up. The temperature rose on the second day to $99\frac{2}{3}^{\circ}$; on the third to 99° ;

on the fourth to 100° ; on the fifth and sixth to 99° , and then it remained at normal.

The patient made a good recovery, and was discharged cured on June 7. There was then still a great deal of thickening round the ligatures, but no pain.

PLASTIC OPERATIONS (3 Cases).

Case 98 (Loss of Half the Nose by Ulceration).

M. S., aged 17, nurse girl. Admitted October 15, 1891; discharged November 2, 1891.

This patient had suffered some years previously from inherited syphilis, which had attacked her nose, and caused the loss of most of the left side, so that one could see the posterior nares from the front. The hole made by the loss of the cartilages measured three-quarters of an inch vertically, and nearly half an inch horizontally. The remains of the lower cartilage were still present, but pointing upwards instead of forwards.

Operation.—The whole margin of the hole being refreshed by removing a thin strip of skin from it, it was found possible to bring the upper part about a quarter of an inch together. By freeing the lower cartilage by a lateral incision, a short distance from it, this could be brought in apposition for a quarter of an inch. There now only remained the intervening quarter of an inch to be filled in. This was done by taking a small flap of this diameter from the cheek and fixing it in the place. The parts adhered well, and the nose remained closed in, though pulled over to the left. The patient, however, was so pleased with the result, that she did not care for the trouble of having this corrected.

Case 99 (Stiff Hand from Contracted Cicatrix).

L. C., aged 10, boy. Admitted February 25, 1893; discharged April 2, 1893.

This patient had been admitted two months previously for a poisoned hand, with suppuration in the palm, and extending above into some of the tendon sheaths of the forearm. Just above the wrist, the skin had sloughed

over an area about the size of a half-crown. Free incisions were made in the palm, efficient drainage established, and the sloughed skin removed. Healing rapidly took place, and he returned home.

At the end of February he came back, with the hand fixed in the flexed position, from the contraction of the scar left by the sloughed skin above the wrist. Some contracted tendons were also felt underneath the scar. The fingers were straight, but more or less stiff from the previous inflammation.

Operation.—The scar, which was adherent to the tendons beneath, was dissected off, and excised. The two contracted tendons of the flexor carpi radialis and ulnaris, were then split longitudinally for two inches, one half being divided horizonitally above and the other below. Each tendon was then re-united to its half by catgut sutures, so that each tendon was lengthened by two-thirds of an inch. In order to cover in the space left by the removal of the scar, an incision was made from the centre of the space downwards to the wrist, and upwards for one and a-half inches.

Another incision was made on the outer side of the arm, extending from the upper limit of the last mentioned, to the wrist joint and one inch distant from it. The skin between the two incisions was next dissected up. Thus a strip of skin an inch wide attached at the two extremities was formed. A similar strip was formed on the other side of the space and the two sutured together down the centre. By this means the whole of the space from which the scar had been removed was covered in; but a raw surface was formed on both the outer and inner margins of the arm. There was no available skin with which to cover these, but it was hoped that the contraction produced by their healing would counterbalance each other. This indeed happened, and when he left the hospital, flexion and extension of the wrist were perfect, but the lateral movements were restricted. He was now ordered a course of massage of the arm and hand, which rapidly restored it to use.

Seen a year later, he was found to have a very useful hand, with hardly any restriction of movement.

Case 100 (Cicatrix of Hand from a Burn).

T. S., aged 7, boy. Admitted May 15, 1893; discharged June 16, 1893.

This patient had five years previously had a severe burn of the palm of the right hand, which in healing contracted, pulling down the fingers. The little finger was drawn down towards the palm, and the concavity was occupied by a web of scar tissue. The other fingers were drawn down, though to a less degree, and the thumb was adducted by scar tissue and adherent to the metacarpal bone of the index finger as far as its head. The skin of the palm was mostly replaced by cicatricial tissue.

Operation, May 17.—The cicatricial web of the little finger was removed, and an attempt made to cover in the space with small flaps from the inner side of the finger. This was, however, unsuccessful, as the stitches all cut out, and the flaps retracted back, leaving a raw surface on the under side of the little finger.

On May 31 the thumb was freed from the metacarpal bone of the index finger by incision until the thumb could be well abducted. A large raw surface was thus left. A strip of skin three-quarters of an inch wide and three and a-half inches long was now shaved off the front of the thigh, comprising half the thickness of the skin. This strip was then cut up into pieces of suitable size, and laid on the raw surfaces on the hand, until both were covered. The hand was then dressed.

The grafts took well, and the whole surface was firmly healed by June 12. The hand was now put up in plaster of Paris, and the boy sent home. A month later he was provided with a splint to the back of the hand, with a key for screwing up each finger separately. By this means the normal amount of extension of the fingers was obtained. After a month of this treatment, he was allowed to use the hand as he liked, but to wear the splint at night only. The temperature remained perfectly normal after both operations.

Seen a year later, the movements of the hand were perfect in every respect.

